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First report on prevention of transboundary damage from hazardous activities

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I. Introduction

1. The topic of international liability was placed on the agenda of the International Law Commission in 1978.[1] That same year, Mr. Robert Q. Quentin-Baxter was appointed Special Rapporteur for the topic. By 1984, he had submitted five reports[2] to the Commission, which sought to develop a conceptual basis for the topic. An effort was made to identify the boundaries of the new topic and distinguish it from the topic of State responsibility, which had been under consideration by the Commission for some time. A distinct contribution of Quentin-Baxter was to propose a schematic outline in his third report in 1982.[3] Before his untimely death in 1985, he submitted his fifth report in 1984 containing five draft articles which, however, were not referred to the Drafting Committee.[4]

2. At its thirty-seventh session, in 1985, the Commission appointed Mr. Julio Barboza Special Rapporteur for the topic. Between 1985 and 1996, Mr. Barboza submitted 12 reports.[5] During this process he carried further the basic approach and outline developed by Mr. Quentin-Baxter. From 1988 onwards, specific articles were placed before the Drafting Committee for consideration. While several draft articles were developed,[6] in 1992 the Commission established a Working Group to consider some of the general issues relating to the scope, the approach to be taken and the possible direction of the future work on the topic.[7] On the basis of the recommendations of the Working Group, the Commission took a number of decisions on 8 July 1992.[8] As regards the scope of the topic:

(a) The Commission noted that, in the last several years of its work on the topic, it had identified the broad area and the outer limits of the topic but had not yet made a final decision on its precise scope. In the view of the Commission, such a decision might be premature. The Commission, however, agreed that, in order to facilitate progress on the subject, it would be prudent to approach its consideration within that broad area in stages and to establish priorities for issues to be covered;

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[1] Pursuant to General Assembly resolution 32/151 of 19 December 1977, the Commission, at its thirtieth session in 1978, established a Working Group to consider the scope and nature of the topic. See *Yearbook ... 1978*, vol. II (Part Two), pp. 150-152.

[2] See Preliminary report, *Yearbook ... 1980*, vol. II (Part One), p. 247, document A/CN.4/334 and Add.1 and 2; second report, *Yearbook ... 1981*, vol. II (Part One), p. 103, document A/CN.4/346 and Add.1 and 2; third report, *Yearbook ... 1982*, vol. II (Part One), p. 51, document A/CN.4/360; fourth report, *Yearbook ... 1983*, vol. II (Part One), p. 201, document A/CN.4/373; and fifth report, *Yearbook ... 1984*, vol. II (Part One), p. 155, document A/CN.4/383 and Add.1.

[3] The third report consisted of two chapters: one set out a schematic outline of the topic and the other analysed the relationship between the schematic outline and the underlying principles discussed both in the Commission and in the Sixth Committee (see footnote 2 above).

[4] Fifth report (see footnote 2 above), pp. 155-156, para. 1.

[5] See Preliminary report, *Yearbook ... 1985*, vol. II (Part One), p. 97, document A/CN.4/394; second report, *Yearbook ... 1986*, vol. II (Part One), p. 145, document A/CN.4/402; third report, *Yearbook ... 1987*, vol. II (Part One), p. 47, document A/CN.4/405; fourth report, *Yearbook ... 1988*, vol. II (Part One), p. 251, document A/CN.4/413; fifth report, *Yearbook ... 1989*, vol. II (Part One), p. 131, document A/CN.4/423; sixth report, *Yearbook ... 1990*, vol. II (Part One), p. 83, document A/CN.4/428 and Add.1; seventh report, *Yearbook ... 1991*, vol. II (Part One), p.71, document A/CN.4/437; eighth report, *Yearbook ... 1992*, vol. II (Part One), p. 59, document A/CN.4/443; ninth report, document A/CN.4/450; tenth report, document A/CN.4/459; eleventh report, document A/CN.4/468; and twelfth report, document A/CN.4/475/Add.1.

[6] *Yearbook ... 1992*, vol. II (Part One), pp. 61-62, paras. 3-8.

[7] See *Yearbook ... 1992*, vol. II (Part Two), p. 51, paras. 341-343.

[8] Ibid., p. 51, paras. 344-349.

(b) Within the understanding set forth in subparagraph (a) above, the Commission decided that the topic should be understood as comprising issues of both prevention and remedial measures. However, prevention should be considered first; only after having completed its work on that first part of the topic would the Commission proceed to the question of remedial measures. Remedial measures in this context might include those designed for mitigation of harm, restoration of what was harmed and compensation for harm caused;

(c) Attention should be focused at first on drafting articles in respect of activities having a risk of causing transboundary harm and the Commission should not deal, at that stage, with other activities which in fact caused harm. In view of the recommendation contained in subparagraph (b) above, the articles should deal first with preventive measures in respect of activities creating a risk of causing transboundary harm and then with articles on the remedial measures when such activities have caused transboundary harm. Once the Commission had completed consideration of the proposed articles on these two aspects of activities having a risk of causing transboundary harm, it would then decide on the next stage of the work.

3. In 1994-1995, the Commission provisionally adopted on first reading several articles.[9]

4. In 1996, the Commission established a Working Group to review the topic in all its aspects in the light of the various reports submitted by the Special Rapporteur and the discussions it had held over the years.[10] In addition to those reports, the Commission had before it a survey prepared by the Secretariat on liability regimes relevant to the topic.[11] The Secretariat had also prepared a survey in 1985 on State practice relevant to the topic.[12]

5. The report of the Working Group contained a complete picture of the topic relating to the principles of prevention and of liability for compensation or other relief along with draft articles and commentaries thereto. The Commission was not able to examine the draft articles thus presented, but they were annexed to the report of the Commission submitted to the General Assembly in 1996.[13]

6. Pursuant to General Assembly resolution 51/160 of 15 December 1996, the Commission in 1997 established a Working Group to consider the manner in which the topic could be further studied and to make recommendations thereon.[14] The Working Group reviewed the work of the Commission on the topic since 1978. It noted that the scope and content of the topic remained unclear owing to such factors as conceptual and theoretical difficulties, the question of the appropriateness of the title and the relation of the subject to the topic of State responsibility.[15]

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[9] Articles 1 to 2 and 11 to 20 were adopted in 1994 (see *Yearbook ... 1994*, vol. II (Part Two), pp. 154 and 159-178, paras. 360 and 380). Articles A to D were adopted in 1995 (*Official Records of the General Assembly, Fiftieth session, Supplement No. 10* (A/50/10), pp. 215-239).

[10] *Official Records of the General Assembly, Fifty-first session, Supplement No. 10* (A/51/10), para. 97.

[11] See "Survey of liability regimes relevant to the topic of international liability for injurious consequences arising out of acts not prohibited by international law", A/CN.4/471.

[12] "Survey of State practice relevant to international liability for injurious consequences arising out of acts not prohibited by international law", ST/LEG/15 and Corr.1, subsequently reissued as document A/CN.4/384.

[13] *Official Records of the General Assembly, Fifty-first session, Supplement No. 10* (A/51/10), annex I.

[14] Ibid., *Fifty-first session, Supplement No. 10* (A/51/10), p. 130.

[15] Ibid. It has also been observed that, while international practice shows that States now accept a general principle of responsibility for environmental harm, "there still remain many uncertainties as to the exact content and the limits of such a principle", including the legal basis and the form of international responsibility for environmental harm. At least three different forms or regimes of responsibility for a

7. As to the two aspects of the topic, "prevention" and "international liability", the Working Group felt that they were distinct from one another, though related. Accordingly, it proposed that issues of prevention and liability should be dealt with separately. Noting further that several draft articles on prevention had been provisionally adopted by the Commission, the Working Group recommended the completion of the first reading of the draft articles on prevention in the next few years. It was also the view of the Working Group that any decision on the form and nature of the draft articles on prevention should be decided at a later stage.[16]

8. It may also be noted that a view was expressed in the Working Group that the Commission should retain the subject of international liability. However, it was agreed that the Commission would need to await further comments from Governments before it could take any decision on the issue. It was further noted that the title of the topic might need adjustment depending on the scope and content of the draft articles. Accordingly, the Commission decided in 1997 to proceed with its work on the topic, concentrating first on matters concerning prevention under the subtitle "Prevention of transboundary damage from hazardous activities".[17]

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wrongful act and one regime of liability for acts which are not wrongful or prohibited have been identified: fault responsibility, responsibility without fault or objective responsibility, objective and relative responsibility or objective and absolute responsibility, and finally liability for acts which are not wrongful or prohibited. See, for an examination of these and other issues, representative. Pisillo-Mazzeschi, "Forms of International Responsibility for Environmental Harm", in F. Francioni and T. Scovazzi, *International Responsibility for Environmental Harm* (Graham and Trotman, London, 1991), pp. 15-17. See also A. Kiss and D. Shelton, *International Environmental Law* (Graham and Trotman, London, 1991), pp. 350-360. The authors note that, "[a]mong the various elements required to establish liability – causality, identifying the wrongdoer, proof and measurement of harm – an issue common to domestic and international environmental law is determining the legal basis or degree of fault necessary to impose liability". (Ibid., p. 350.) During the last two decades, there has been a proliferation of scholarly literature on the subject of international liability. Reviewing this literature, the editors of the *Harvard Law Review* noted that, nevertheless, no operational system for adjudicating liability had emerged. Further, in their view, the scant international environmental case law that did exist possessed little precedential value because the cases had been decided not on environmental liability grounds but rather on narrow mootness or treaty grounds. Thus, neither scholars nor international judges could legitimately rely upon these cases to generate more specific liability rules. Accordingly, no legitimate expectations about the consequences of action or inaction to prospective environmentally injurious States could be communicated. Thus, the principle *sic utere* "remains an abstraction, an empty concept that commentators hope to fill with substantive content, preferably content bearing the imprimatur of the United Nations or some other international organizations". According to the editors, "the challenges for the publicists then lies in the promulgation of an international liability regime that so advances the interest of States that nations will surrender some of their sovereign rights to participate in the system". See Editors of the *Harvard Law Review*,"Trends in International Environmental Law", reproduced in L. D. Guruswamy, Sir G. W. representative. Palmer and B. H. Weston, *International Environmental Law and World Order: A Problem-Oriented Coursebook* (West Publishing Co., St. Paul, Minn., 1994), pp. 330-332. See also, on the essential modesty of customary law, I. Brownlie, "A Survey of International Customary Rules of Environmental Protection", *Natural Resources Journal*, vol. 13 (1973), pp. 179-189.

[16] *Official Records of the General Assembly, Fifty-second session, Supplement No. 10* (A/52/10), para. 166.

[17] Ibid., para. 168.

Part One
Concept of prevention and scope of the draft articles

II. Consideration of the topic of international liability during the fifty-second session of the General Assembly

A. General observations

9. The Commission's decision to continue work on the topic was welcomed. It was stated that there was a growing need for clear rules limiting the nature of the discretion with which States interpreted and complied with certain obligations, especially those aimed at ensuring that activities carried out in areas under their jurisdiction or control did not cause damage to other States or to areas beyond the limits of their national jurisdiction. It was regrettable that only modest advances had been made, owing to the reluctance of States to contribute to the definition of the scope of a regime of liability for such activities. Reference was made to principle 22 of the Stockholm Declaration – reflected in many later international instruments – which imposed on States the obligation to cooperate in developing that area of law. It was stated that steps should be taken to put that obligation into effect. It was further stated that international law dealing with the subject was constantly evolving and had major significance at the dawn of the twenty-first century.[18] In the modern world, the failure to prevent damage to the environment could have serious consequences. The current understanding was that the world did not have an inexhaustible supply of natural resources and that sustainable development must be promoted. Those who contributed to the codification and progressive development of international law in that field could not neglect the issue.

B. Commission's decision regarding prevention and liability

10. With regard to the decision by the Commission to address the question of prevention separately from liability, two different views were expressed. Many delegations, while agreeing with that approach, stressed the need to deal also with the question of liability. The remark was made that the Commission, in deciding to separate its study of prevention from that of liability in the true sense, had opted for an approach which on the one hand seemed fully justified and, on the other, had various far-reaching consequences.[19] It could not be denied that the two matters, international liability and prevention, were connected only indirectly, and it was justifiable to separate them for a number of reasons. Irrespective of whether liability constituted a primary or a secondary norm, it defined the consequences resulting from damage caused by activities which were lawful under international law. In that respect, reference could be made to draft article 35 on State responsibility, a link which was also reflected in the commentary on that provision. However, the draft on liability also included rules that were purely primary in scope, for example those concerning prevention, the violation of which would not entail liability but did fall within the sphere of State responsibility. It was therefore incorrect to combine prevention with a liability regime in the same draft unless a clear conceptual distinction was made therein. A separation of the

[18] For these views, see generally the statements made by the delegations of Mexico (A/C.6/52/SR.17, para. 27) and New Zealand (A/C.6/52/SR.23, para. 28).

[19] See, for example, the views expressed by the delegation of Austria (A/C.6/52/SR.23, para. 41).

two issues was also warranted on the grounds that they often dealt with different spheres of activity: prevention addressed almost all dangerous activities. Thus, principle 21 of the Stockholm Declaration, which the Commission had already recognized as constituting existing law, did not distinguish different categories of activities. In contrast, it seemed appropriate to provide a liability regime only for those activities which were considered indispensable despite their dangerous nature. Such a regime would stipulate that damage which occurred despite precautionary measures need not be defrayed by society but should be compensated by the author of the damage. It was only in that way that the prevention and liability regimes were connected.

11. It was noted that the Working Group of the Commission had made significant progress on that topic in 1996, which had resulted in a set of draft articles on prevention. States had the obligation to prevent transboundary harm and to minimize risk, in particular through environmental impact assessments. Future work on the topic, however, should not be confined to prevention. If there was harm, there must be compensation. Prevention was merely an introduction to the crux of the topic, namely, the consequences of the acts in question. By studying each aspect of the topic with the same degree of care, the Commission would demonstrate that it was a modern organization prepared to take up the challenges of the twenty-first century.[20]

12. The remark was also made that article 1 defined the scope of the draft articles, namely, activities not prohibited by international law which involved a risk of causing significant transboundary harm.[21] State responsibility would arise from the occurrence of harm if the State failed to implement the obligations set out by the draft articles on prevention while engaging in activities of that nature. On the other hand, if the State fulfilled its obligations under the draft articles and harm still occurred, that would give rise to "international liability", which was the core issue. As soon as the Commission completed its first reading of the draft articles on "prevention", it should proceed to the issue of "liability". The decision on whether there was a need to adjust the title of the topic should be made in the light of the content of the draft articles.

13. The comment was made that the Commission's confusion on the relationship between the two aspects of the topic was understandable:[22] the "liability" aspect was definitely a key component of the topic in question and was of considerable practical import as well. However, the topic, which was relatively poorly defined in judicial practice and doctrine, was controversial and invited conflicts which sprang, *inter alia*, from differing interpretations of the matter under different systems of national law and entailed clashing theories with respect to risk, liability, abuse of rights and breaches of good-neighbourliness, to cite only a few; such clashes significantly clouded the question as to what regime was applicable at the international level. Even if the crux of the problem was defined in terms of primary rules, the fact remained that the meaning of "*sic utere tuo* ..."was very difficult to interpret in positive international law. Accordingly, the Commission's decision to separate the two aspects of the topic, at least temporarily, was appropriate and would at least allow progress on the "prevention" aspect, which should be limited to hazardous activities.

[20] See the statements by the delegations of New Zealand (A/C.6/52/SR.23, para. 28), Portugal (A/C.6/52/SR.24, paras. 62-63), Brazil (A/C.6/52/SR.25, para. 16), the Republic of Korea (A/C.6/52/SR.25, para. 38), Argentina (A/C.6/52/SR.25, para. 43), Mexico (A/C.6/52/SR.17, para. 27) and Italy (A/C.6/52/SR.23, para. 12).

[21] Statement by the delegation of China (A/C.6/52/SR.23, para. 6).

[22] See the statement by the delegation of the Czech Republic (A/C.6/52/SR.23, para. 66).

14. Yet another view expressed the undesirability of considering the liability aspect of the topic. It was stated that while "international liability" had been the core issue of the topic as originally conceived, that did not mean that it should be retained for further work 25 years later, in the light of the meagre understanding reached in that time. Further work on the topic should be confined to the prevention aspect alone. The comment was also made that the Commission had failed over the past 20 years to define the scope and content of the topic, so it would be better to start with what was possible and practicable. Within that framework, the Commission should confine its work to transboundary damage and to activities having a risk of causing harm. The broader issues of creeping pollution and global commons should be excluded, at least initially.[23]

C. Prevention

15. With regard to the issue of prevention, it was stated that in view of the multifarious activities carried out by States within their borders it might be difficult to draw up an exhaustive list of activities involving a transboundary risk and that an illustrative list might be preferable.[24] It was also noted that it might be difficult to accept the qualification of "transboundary harm" as "significant", a term which could be controversial, particularly as there was no provision for a binding dispute settlement mechanism. In the absence of such a mechanism, the adjective should be deleted.[25] In the event of harm, the aggrieved State should be entitled to compensation by the State from which the harm emanated. It was also stated that the work on prevention should include a procedure under which the parameters and ramifications of prevention in international law would first of all be clarified and then assessed against the relevant draft articles already elaborated by the Commission. In that regard, it was impossible to ignore the difficulties of defining "hazardous acts" which would determine the scope of the provisions. At the same time, however, it was important not to lose sight of the original task, namely the elaboration of a regime of liability *stricto sensu*. The comment was further made that the Commission should take account of contemporary practice in the field, which placed more emphasis on providing incentives, including capacity-building, to promote the observance of rules of due diligence. Implementation of the due diligence obligation should be made directly proportional to the scientific, technical and economic capacities of States. Failure to meet that obligation should entail enforceable legal consequences not involving economic or other sanctions.[26]

16. It was also observed that some activities might become hazardous only in conjunction with other activities, a fact that might necessitate an expanded exchange of information, a more liberal consultation regime and a broader assessment of risk that encompassed both the environment of other States and activities in those States. Similarly, the effects of transboundary activities in two States might combine to be felt in a third State, thus creating more than one State of origin.[27]

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[23] See the statements by the delegations of Japan (A/C.6/52/SR.24, para. 3) and the United Kingdom of Great Britain and Northern Ireland (A/C.6/52/SR.19, para. 48).

[24] Statement by the delegation of Pakistan (A/C.6/52/SR.18, para. 64).

[25] Ibid.

[26] Emphasis on providing incentives, including capacity-building, was highlighted by the delegation of India (ibid., para. 30).

[27] Statement by the delegation of Australia (A/C.6/52/SR.24, para. 27).

D. Comments on specific articles recommended by the Working Group

17. The remark was made that the proposed draft articles elaborated by the Working Group in 1996 were based on the principle of customary international law, which established the obligation to prevent or mitigate transboundary damage arising out of activities that were under the control of a State.[28] It was noted that the existence of harm was a prerequisite for the establishment of liability. However, the question of whether liability should flow from the mere existence of harm or from conduct reflecting a lack of diligence might be better determined by the nature of the activity and the risk it posed. It was also noted that reparation was preferable to compensation in the case of environmental damage. It was observed that the remaining draft articles were consistent with what national and international environmental assessment should be. Regarding the future development of the draft articles, it would be desirable to permit States to override them where they dealt with specific issues of liability with respect to which a treaty was being negotiated. It was also noted that the general issue of the relationship with existing treaty law in the field of international liability must be addressed as well.

18. The view was expressed that article 4 as currently drafted was broader than its predecessor, article B.[29] Under a rubric of prevention that went beyond the prevention of risk, it now encapsulated three obligations: risk prevention *ex ante*, risk minimization *ex ante* and harm minimization *ex post*, the last of which, being related to transboundary harm that had actually occurred, might in some circumstances amount to prevention. Article 4 distinguished the occurrence of harm, which must be significant, from its effects, which might be minor. Thus, if article 4 was taken in conjunction with article 1 (b), the draft articles would apply to activities that did not involve risk of significant transboundary harm but did in fact cause it. It would be useful to clarify whether the last part of article 4 intended to impose an obligation to remove harmful effects; as drafted, some choice on the part of States could be implied, especially in conjunction with article 3, on freedom of action. In addition, the broad concept of prevention under article 4 was not commensurate with that under articles 9 to 19, on prevention or minimization of risk, being more closely related to that under articles 20 to 22, on compensation. With respect to article 4 the comment was also made that the article was important because it emphasized the importance of preventive action, and in particular draft article 1 (b), which dealt with activities that did not normally entail risk but that nonetheless caused harm.

19. It was noted that article 6, like article 4, drew a distinction between harm and effects, but referred to effects in both affected States and the State of origin.[30] Clarification was needed as to whether both types of effects were also covered by the obligations in article 4, or only effects in affected States.

20. With respect to articles 9 and 11, it was stated that they were both concerned with the question of authorization and should be placed together.[31] The emphasis in article 11 could be strengthened by introducing the concept of good faith. Also, the introduction of a temporal element, requiring reasonably prompt action on the part of a State in directing those responsible for pre-existing activities to obtain authorization, would reinforce the need for due diligence.

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[28] Statement by the delegation of Canada (A/C.6/52/SR.25, para. 30).

[29] Statement by the delegation of Australia (A/C.6/52/SR.24, para. 22). See also the statement by the delegation of Portugal (ibid., para. 62).

[30] Statement by the delegation of Australia (ibid., para. 23).

[31] Ibid., para. 24.

21. It was stated that under article 10 (risk assessment) the questions of who should conduct the assessment, what it should contain and the form of authorization were left to the State of origin to decide; it was in fact appropriate to avoid being overly prescriptive.[32]

22. It was further observed that articles 13 to 18 had to be considered in the light of international regimes governing more specific areas of activity.[33] The purpose of article 13 was to require notification and transmission of information. As currently drafted, it also required a response, but that requirement might be more appropriately placed under article 14 (exchange of information) or article 17 (consultations on preventive measures). If, on the other hand, article 13 was to involve the exchange of information and not simply transmission and notification, then articles 13 and 14 could be combined under the title "Notification and exchange of information".

23. On the general issue of international liability, it was noted that the Commission should elaborate on joint liability arising from joint activities, and on associated issues including indemnities, rights of action and of inspection, dispute settlement principles and bodies, access, investigation and clean-up. The comment was also made that the relationship between this topic and State responsibility should be clearly defined.[34]

24. Given the comments made by States in the Sixth Committee at the fifty-second session of the General Assembly (1997), there is a clear mandate to proceed with the work on prevention. Several comments on general issues and observations made on specific articles recommended by the Working Group in 1996 are dealt with below.

25. It is proposed to clarify the concept of prevention and the scope of the proposed draft articles, keeping in mind the work done by the Commission so far. Thereafter, we proceed to deal with the various elements or principles comprising the regime of prevention. The following two sections on the concept of prevention and on the scope of the draft articles rely mostly on material drawn from the records of the Commission on the subject, particularly the reports of the two previous Special Rapporteurs as well as the decisions taken by the Commission. While the focus is on the principle of prevention, some reference to reparation and liability is inevitable since the subjects of prevention, reparation and liability were dealt with as closely related concepts in the work of the Commission in the past. However, even while such reference is made to reparation or liability, care has been taken not to digress from the topic of prevention, and thus consideration of matters like strict or absolute liability or any legal principles concerning the post-harm phase are strictly avoided. A review of the work accomplished by the Commission so far during the last 20 years is considered necessary for the following reasons :

(a) As this is a newly constituted Commission, such a review would provide a necessary background to the members of the Commission;

(b) Any regime to be developed on prevention should usefully incorporate the various elements of the concept of prevention so far developed by the Commission with the large support of both members of the Commission and delegations in the Sixth Committee; the review will attempt to identify these elements as far as possible;

(c) Such a review would also highlight the various arguments or points of view expressed on the difficult issues involved, like the relationship between liability and responsibility, the equation between the principle of prevention and liability on the one hand

[32] Ibid., para. 25.

[33] Ibid., para. 26.

[34] See generally the statements made by the delegation of Australia (ibid., para. 28) and Thailand (A/C.6/52/SR.17, para. 39).

and responsibility on the other, the need to define legal thresholds of harm as well as other components of the scope of the topic. These issues engaged the attention of the Commission as well as of the Sixth Committee in the past and they will do so also in the future. Accordingly, the analysis of the trends in decisions on these issues would help us to conclude the work of the Commission on the topic as expeditiously as possible.

III. Concept of prevention

A. Prevention within the context of sustainable development

26. Prevention as a concept has assumed great importance in any scheme of avoiding or not causing harm to one's neighbour, howsoever widely or narrowly we define our neighbourhood. In the modern context, not only do various activities project damage or harm beyond their immediate confines, but the magnitude of such damage, whenever and wherever it occurs, has also become a matter of grave concern. Accordingly, growth of population, the need for economic development, ever growing consumerism and materialism have resulted in cities becoming congested, rivers and oceans becoming polluted, forests becoming depleted, land becoming scarred, toxic and hazardous wastes abounding, with the health, well-being and even the survival of humankind at stake. Global warming, ozone depletion, deforestation, desertification, deteriorating biodiversity, the unmanageable and unsustainable plundering of natural resources and other factors account for the deterioration of the global environment, threatening to put the planet in peril.[35]

27. Meeting the challenges posed by these problems has become an urgent and enduring concern of humankind. The United Nations Conference on Human Environment held at Stockholm in June 1972 and the United Nations Conference on Environment and Development held at Rio de Janeiro in June 1992 are two of the most notable efforts of the international community to identify policies, programmes and strategies for avoiding transnational harm to the environment and to conclude treaties to implement them. Both of those Conferences and other follow-up meetings and declarations gave high priority to the concept of prevention in achieving desired goals. Principle 2 of the Rio Declaration, which basically reaffirmed principle 21 of the Stockholm Declaration, reads:

> "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."[36]

28. The International Court of Justice, in its advisory opinion on the *Legality of the Threat or Use of Nuclear Weapons* of 8 July 1996, confirmed that principle 2 restated a rule of customary law, observing that "[t]he existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States

[35] For a treatment of many of these themes, see *Time*: special issue: "Our Precious Planet", November 1997.

[36] For the text of the Rio Declaration, the Stockholm Declaration and many other relevant instruments, see Patricia W. Birnie and Alan Boyle, *Basic Documents on International Law and the Environment* (Oxford, 1995).

or of areas beyond national control is now part of the corpus of international law relating to the environment."[37]

29. As has been observed, however, "[t]he exact scope and implications of principle 2 are not clearly determined yet. Certainly not all instances of transboundary damage resulting from activities within a State's territory can be prevented or are unlawful".[38]

30. According to the Rio Declaration, the obligation to avoid causing significant transboundary harm requires an approach which promotes prevention as a duty and as a concept integral to the process of development aimed at eradicating poverty (principles 4 and 5). As has been rightly stressed in principle 25, "peace, development and environmental protection are interdependent and indivisible."This interdependent approach is reiterated in the final documents of recent United Nations Conferences such as the International Conference on Population and Development in Cairo, the World Summit for Social Development in Copenhagen, the Fourth World Conference on Women in Beijing, the United Nations Conference on Human Settlements (Habitat II) in Istanbul and the nineteenth special session of the General Assembly for the review and appraisal of the implementation of Agenda 21.

31. The special situation and needs of developing countries, in particular, the least developed and those most environmentally vulnerable, require special priority in this connection (principle 6).[39]

B. Prevention as a preferred policy

32. The obligation not to cause damage to the environment of other States or of areas beyond the limits of national jurisdiction is a clear directive to States to employ their best possible efforts to prevent such transboundary damage. Prevention is preferable because compensation in case of harm can often not restore the situation prevailing prior to the event

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[37] *I.C.J. Reports 1996*, p. 15, para. 29.

[38] See "Rio Declaration on Environment and Development: application and implementation, report of the Secretary-General", E/CN.17/1997/8, para. 23. It has also been pointed out that "[i]n general international practice has not been particularly favourable to remedying environmental damage through the use of traditional rules of State responsibility. Characteristically States proclaim the principle of responsibility but demonstrate hesitancy in adding detailed norms. They are even more reluctant to invoke it against other States when actual cases arise". Kiss and Shelton, op. cit. (see footnote 15 above), p. 360.

[39] The Rio Declaration further states that, "in view of the different contributions to global environmental degradation, States have common but differentiated responsibilities" (principle 7). In this connection, the point has been made that:

> "Differentiated responsibilities may result in different legal obligations. In practical terms, the principle of common but differentiated responsibilities is translated into the explicit recognition that different standards, delayed compliance timetables or less stringent commitments may be appropriate for different groups of countries, to encourage universal participation. The developed countries acknowledge their responsibility because of the pressure on the global environment, and because of the technologies and financial resources they command. A number of international agreements recognize a duty on the part of industrialized countries to contribute to the efforts of developing countries to pursue sustainable development and to assist developing countries in protecting the global environment. Such assistance may entail, apart from consultation and negotiation, financial aid, transfer of environmentally sound technology and cooperation through international organizations." (E/CN.17/1997/8, para. 46).

or accident, i.e. the status quo ante.[40] Discharge of the duty of prevention or due diligence is all the more required as knowledge regarding the operation of hazardous activities, materials used and the process of managing them and the risk involved is steadily growing. From a legal perspective, the enhanced ability to trace the chain of causation, i.e. the physical link between the cause (the activity) and the effect (harm) in spite of several intervening factors in the chain of causation, makes it also imperative to take all steps necessary to prevent harm to avoid liability. Prevention as a policy in any way is better than cure. It is a time-honoured policy and one that is widely used by many developed and industrialized societies to manage and even reduce or eliminate the ill effects of their economic growth.

33. The issue of prevention, therefore, has rightly been stressed by the Experts Group on Environmental Law of the World Commission on Environment and Development. Article 10 recommended by the Group in respect of transboundary natural resources and environmental interferences thus reads: "States shall, without prejudice to the principles laid down in articles 11 and 12, prevent or abate any transboundary environmental interference or a significant risk thereof which causes substantial harm – i.e. harm which is not minor or insignificant."[41] It must be further noted that the well-established principle of prevention was highlighted in the arbitral award in the *Trail Smelter* case and was reiterated not only in principle 21 of the Stockholm Declaration but also in General Assembly resolution 2995 (XXVII) of 15 December 1972 on cooperation between States in the field of the environment. This principle is also reflected in principle 3 of the 1978 draft UNEP Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States which provided that States must "avoid to the maximum extent possible and ... reduce to the minimum extent possible the adverse environmental effects beyond its jurisdiction of the utilization of a shared natural resource so as to protect the environment, in particular when such utilization might: (a) cause damage to the environment which could have repercussions on the utilization of the resource by another sharing State; (b) threaten the conservation of a shared renewable resource; (c) endanger the health of the population of another State".[42]

34. Prevention of transboundary harm to the environment, persons and property has been accepted as an important principle in many multilateral treaties concerning protection of the environment, nuclear accidents, space objects, international watercourses, management of hazardous wastes and prevention of marine pollution. It has also been accepted in several conventions concluded by the Economic Commission for Europe such as the 1979 Convention on Long-range Transboundary Air Pollution; the 1991 Convention on Environmental Impact Assessment in a Transboundary Context; the 1992 Convention on

[40] The principle of prevention is referred to as a starting point for the elaboration of an international regime concerning prevention of transboundary harm. The basic assumption is that environmental protection is best achieved by preventing environmental harm rather than attempting to compensate for environmental damage once it has occurred. See "Final report of the Expert Group Workshop on International Environmental Law Aiming at Sustainable Development", UNEP/IEL/WS/3/2, p. 12.

[41] *Environmental Protection and Sustainable Development – Legal Principles and Recommendations*, adopted by the Experts Group on Environmental Law of the World Commission on Environment and Development (Graham and Trotman/Martinus Nijhoff, 1986), p. 75. It was also noted that the duty not to cause substantial harm could be deduced from the non-treaty-based practice of States, and from the statements made by States individually and/or collectively. See J. G. Lammers, *Pollution of International Watercourses* (Martinus Nijhoff, The Hague, 1984), pp. 346-347, 374-376.

[42] *International Legal Materials*, vol. 17 (1978), p. 1098. For a mention of other sources where the principle of prevention is reflected, see *Environmental Protection and Sustainable Development – Legal Principles and Recommendations*, op. cit. (footnote 41 above), pp. 75-80.

the Protection and Use of Transboundary Watercourses and International Lakes; and the 1992 Convention on the Transboundary Effects of Industrial Accidents. Through these and other measures, Europe is effectively attempting to integrate environmental protection into economic development. Moreover, "a growing economy is actually seen as a necessary pre-condition for sustainability, in that it creates the resources needed for ecological development, the restoration of environmental damage, and the prevention of future harm".[43]

C. Prevention as an obligation of conduct

35. A study of State responsibility for industrial and technological damage which may be involved inherently as a risk in beneficial or developmental activities concluded that any such responsibility for transboundary harm was limited only to obligations of conduct and did not extend to obligations of result.[44] Professor Pierre-Marie Dupuy observed in this connection:

> "The various limits usually placed on the legal exercise of [States'] powers in these respects have the effect not of protecting third parties against any infringements of their subjective rights resulting from the conduct of these activities, but rather of making it an obligation for the States engaging in them to take the greatest care to *prevent* any possible damage."[45]

36. He further stated that prevention was better than cure, so that a regime which articulated required standards of behaviour might be worth more than one that set a tariff for loss or injury.[46]

37. Another commentator also foresaw the need for the development of new rules in respect of lawful acts of States which carried a risk of causing serious damage. Observing that it was doubtful whether we could stretch the limits of responsibility for wrongful acts indefinitely without attacking its very foundation, Professor Reuter noted:

> "We have only to consider that certain risks, which are normal enough for no prohibition to be placed on the enterprises that create them, entail an obligation to make reparation for damage if the risk materializes. In such a case, responsibility exists without any breach of a rule of international law. The act is lawful, but it entails an obligation of reparation. Responsibility is bound up with mere causality. No one can say at present that such a rule exists in international law; but since mankind has

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[43] European Commission, *Caring for our Future: Action for Europe's Environment* (Brussels, 1997), p. 10.

[44] As to obligations of conduct and result, see articles 20 and 21 of the draft articles on State responsibility (Part I) adopted by the International Law Commission on first reading. *Yearbook ... 1980*, vol. II (Part Two), p. 32.

[45] P.M. Dupuy, *La responsabilité internationale des États pour les dommages d'origine technologique et nucléaire* (Paris, Pedone, 1976), cited in the second report of Quentin-Baxter (see footnote 2 above), p. 113, footnote 77. The Experts Group on Environmental Law of the World Commission on Environment and Development noted: "While activities creating a significant risk of causing substantial harm must in principle be prevented or abated, it may well be that, in the case of certain dangerous activities, the unlawfulness will be taken away when all possible precautionary measures have been taken to preclude the materialization of the risk and the benefits created by the activity must be deemed to far outweigh the benefits to be obtained by eliminating the risk which would require putting an end to the activity itself" (op. cit. (see footnote 41 above), p. 79). See also article 11 on liability for transboundary environmental interferences resulting from lawful activities proposed by the Experts Group (ibid., p. 80).

[46] Dupuy, op. cit., cited in second report of Quentin-Baxter (see footnote 2 above), p. 114, para. 46.

never shrunk from highly dangerous undertakings the rule might be adopted at least in part."[47]

38. Justifying the development of the duty of prevention as a duty of care, Quentin-Baxter observed that "conventions dealing with liability seldom stand in isolation: much more usually they are a link in a chain of obligations, which in turn form part of a larger international effort designed to prevent or minimize loss or damage arising from the particular activity". He added that "[o]bligations of reparation, therefore, are not allowed to take the place of obligations of prevention."[48]

39. A study of the various conventions involved also led Quentin-Baxter to the conclusion that, in respect of activities which bore a risk of damage, Governments retained ultimate supervisory functions, even when they passed on to private operators the duty to provide compensation and to guarantee its payment.[49] He noted further that the strictness of the standard of care tended to increase with the degree of danger inherent in the enterprise, which standard, of course, related primarily to obligations of prevention. The duty of care, operating as a function of such obligations, required the State within whose territory or jurisdiction the danger arose to work in good faith for a just solution, taking due account of all the interests involved.[50]

D. Prevention and reparation: a continuum and a compound obligation

40. The essential approach of Quentin-Baxter was to deal with the subject of prevention along with reparation, treating them as part of a continuum rather than as two mutually exclusive options.[51] In short, in his conception, this topic allowed a soft approach to the problem of reconciling one State's freedom of action with another State's freedom from transboundary harm.[52] More generally, this system of "different shades of prohibition"[53]

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[47] P. Reuter, "Principles de droit international public", *Recueil des cours ..., 1961-II*, vol. 103, p. 593 cited in the second report of Quentin-Baxter (see footnote 2 above), p. 116, footnote 95.

[48] Second report of Quentin-Baxter (ibid.), p. 120, para. 70; see also various conventions cited in footnote 115 of the same report. The Institute of International Law, in its resolution on "Environment" of 4 September 1997, observed that the duty to take all necessary care to prevent damage to the environment imposed upon States, regional and local Governments and juridical or natural persons existed independently of any obligation to make reparation (article 9). See also the preambular paragraph of its resolution of the same date entitled "Responsibility and liability under international law for environmental damage", which noted that "both responsibility and liability have in addition to the traditional role of ensuring restoration and compensation that of enhancing prevention of environmental damage".

[49] See the provisions cited in his second report (footnote 2 above), p. 120, footnote 116.

[50] Ibid., pp. 120-121, paras. 71-72.

[51] Yankov felt that the purpose of the topic was to deal with a "twilight zone", *Yearbook ... 1981*, vol. I, p. 226, 1687th meeting, para. 1. Others believed that the topic was concerned with the regulation of activities that were in principle useful and legitimate and should, therefore, not be prohibited but only regulated with conditions attached to the conduct. See, in this respect, the view of Riphagen (*Yearbook ... 1980*, vol. I, p. 245, 1630th meeting, paras. 29-30) and Sir Francis Vallat (ibid., p. 250, 1631st meeting, para. 36). Quentin-Baxter stated that, "[f]rom a formal standpoint the subject matter of the present topic must be expressed as a compound 'primary' obligation that covers the whole field of preventing, minimizing and providing reparation for the occurrence of physical transboundary harm" (fourth report (see footnote 2 above), p. 213, para. 40).

[52] Fourth report, ibid., p. 213, para. 43.

[53] As the activities coming within the scope of this topic "are near the moving frontier between lawfulness and unlawfulness" and hence represent "different shades of prohibition", many members within the Commission and in the Sixth Committee were not willing to describe such activities as licit or illicit.

was projected as an appeal to "self-regulation" by the source State; if it could not reach agreement with the affected State, it was at least duty-bound to take objective account of the legitimate interests of the affected State, whether by providing a protective regime or by providing reparation for a transboundary loss or injury not governed by an adequate or agreed regime.[54]

E. State responsibility vs. obligations of prevention and liability

41. Distinguishing obligations that arise respectively from wrongful acts and from acts which international law does not prohibit, Quentin-Baxter noted that the primary aim of the draft articles he intended to develop was "to promote the construction of regimes to regulate without recourse to prohibition, the conduct of any particular activity which is perceived to entail actual or potential dangers of a substantial nature and to have transnational effects".[55] He further explained that the term liability was used in the sense of "a negative asset, an obligation, in contradistinction to a right". Accordingly, it referred not only to the consequences of an obligation but rather to the obligation itself which – like responsibility – included its consequences.[56]

42. Thus, it was submitted that an obligation in respect of an act not prohibited would arise only when a primary rule of international law so provided. In other words, the various principles expected to be dealt with under this topic would be in the nature of an elaboration of a primary rule rather than as legal consequences of violations of a primary obligation.

43. As a further variation from the topic of State responsibility, the phrase "acts not prohibited" in the title was used, as explained, to indicate that an injured State did not have to prove the lawfulness of the activities of which it complained, as the phrase carried implicitly the enlarged meaning "acts whether or not prohibited".[57] Persuaded by Quentin-Baxter, the Commission took an initial decision which it repeatedly reaffirmed to the effect that "the topic lay within the field of 'primary' rules, i.e., rules that are governed by and do not compete with the established system of State responsibility for wrongful acts or omissions."[58] The development of the topic of international liability, hence, the duty of prevention, would involve admitting the existence and reconciliation of "legitimate interests and multiple factors".[59] It may be recalled that principle 23 of the Stockholm Declaration also referred to the criterion of certain categories of legitimate interests. As a basis for the development of the theme of "legitimate interests and multiple factors", Quentin-Baxter referred to a number of cases. He noted the following principle affirmed in the "*Lotus*" case:[60] "limitations upon the sovereignty of States depend upon the existence of the primary rules of obligation, and these are to be proved, not presumed".[61] He further pointed out that the International Court of Justice held in the *Corfu Channel* case that every State had an obligation "not to allow knowingly its territory to be used for acts contrary to the rights of

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Ibid., pp. 206-207, para. 20. For a mention of various views expressed in this regard, see ibid., paras. 20-22.

[54] Ibid., p. 214, para. 44.

[55] Preliminary report (see footnote 2 above), p. 250, para. 9.

[56] Ibid., para. 12.

[57] ibid., p. 251, para. 14.

[58] Fourth report (see footnote 2 above), p. 203, para. 7.

[59] Preliminary report (see footnote 2 above), p. 258, para. 38.

[60] Judgment No. 9, 1927, *P.C.I.J., Series A*, No. 10.

[61] Preliminary report (see footnote 2 above), p. 257, para. 35.

other States".[62] The Court was referring to a breach of an undisputed rule of international law that is the right of innocent passage, i.e. to acts contrary to the rights of other States. This was a ruling similar to that of the arbitral tribunal in the *Trail Smelter* case.[63]

44. Further, the duty to have regard to all the interests involved could be seen to be arising from the duty to take reasonable care as well as from the application of an equitable principle. Accordingly, it was suggested that a discharge of the duty of reasonable care would involve not only taking necessary precautions to prevent damage but also providing for an adequate and accepted regime of compensation.[64] The regulation of mutual obligations in relation to shared interests could involve "boundless choices" for States. For example, agreed safety and supervisory measures could be supplemented by conventional regimes regulating liability for damage.[65] Or a regime of care for shared environment providing equal care for individual, as well as differing, needs of States and peoples concerned could be agreed upon by taking into consideration all relevant factors.[66] The regime of reasonable care required of a State that permitted an activity the harmful effects of which might be felt outside its own borders – might, for example, include obligations to collect and furnish information – to seek agreement upon methods of construction or procedures or tolerable levels of contamination and to provide guarantees of reparation in case of precautions which failed to prevent injurious consequences.

F. Schematic outline of Quentin-Baxter

45. The above provided the conceptual backdrop for the schematic outline proposed by Quentin-Baxter, the main objective of which was "to reflect and encourage the growing practice of States to regulate these matters in advance, so that precise rules of prohibition tailored to the needs of particular situations – including, if appropriate, precise rules of strict liability – will take the place of the general obligations treated in this topic".[67]

46. With respect to the obligation of prevention, section 2(1) of the schematic outline provided for the duty to inform and section 2(5) for the duty to cooperate in good faith to reach agreement, if necessary, upon the establishment of a non-binding fact-finding

[62] Corfu Channel, Merits, *Judgment, I.C.J. Reports 1949*, p. 22.

[63] *Reports of International Arbitral Awards*, vol. III.

[64] Preliminary report (see footnote 2 above), p. 260, para. 46. Quentin-Baxter further stated that "[i]f, however, the same injurious consequences occur in circumstances the possibility of which not even a vigilant State could have been expected to envisage, equity may still suggest that the State which took or allowed the action should provide compensation for the innocent victim; but other equities may outweigh that consideration" (ibid.). Moreover, he pointed out that the criterion of actual knowledge of a source of danger may sometimes be replaced, as the test of responsibility for wrongfulness, by an assessment as to whether a lack of knowledge is compatible with the required standard of due diligence (ibid., p. 263, para. 55).

[65] Ibid., p. 261, para. 48.

[66] As for example, in the case of the sharing of watercourses for non-navigational uses among co-riparians. Article V of the Helsinki Rules on the Uses of the Waters of International Rivers (ILA, *Report of the Fifty-second Conference, Helsinki, 1996* (London, 1967), p. 484) and article 6 of the 1997 Convention on the Law of Non-navigational Uses of International Watercourses (General Assembly resolution 51/229, annex) suggested various such factors. It is also relevant to note the following observation made in the *Lake Lanoux* case: conflicting interests must be reconciled by mutual concessions and agreements involving broad comparison of interests and reciprocal goodwill (*Reports of International Arbitral Awards*, vol. XII, p. 308).

[67] Fourth report (footnote 2 above), p. 216, para. 50.

procedure. Further, section 6 dealt with various factors States could take into consideration with a view to achieving mutual accommodation and balancing of interests.

47. Reaction to the general analysis and approach adopted by Quentin-Baxter in his five reports and in particular to the schematic outline which he proposed was generally favourable and supportive.

48. During the discussion in the Sixth Committee of the General Assembly at its thirty-seventh session, there was preponderant support both for the general tenor of the schematic outline and, more specifically, for implementing the duty to avoid, minimize and provide reparation for transboundary losses or injuries. Some thought that the schematic outline should be reinforced to give better guarantees that that duty would be discharged. A few, on the other hand, were sceptical about the value of the topic or its viability. A few others thought that a conceptual distinction must be made between the question of prevention and that of reparation and several saw advantage in concentrating upon the latter duty. Most, however, were firmly in favour of maintaining the linkage between prevention and reparation indicated in the schematic outline.[68]

G. Prevention and liability: treatment of the topic by Barboza

49. After taking over the subject, while accepting the general orientation of Quentin-Baxter, Barboza developed the theme of international liability further. He also revisited many of the issues that had been raised during the time of Quentin-Baxter. He recommended that the question of the relationship of the topic of liability to the topic of responsibility should not be reopened. Noting that the previous Special Rapporteur had used two main guidelines to draw a conceptual distinction between his topic and that of State responsibility, one relating to the distinction between primary and secondary rules and the second emphasizing duties of prevention and "due care", and that the schematic outline had found general acceptance within the Commission and in the Sixth Committee, in spite of some reservations, he said that:

> "There seemed to be a clear indication that higher approval had been given to the approach of considering transboundary loss or injury as a topic of discussion, to including prevention as an integral part of that topic, as well as to the other procedures and concepts referred to in the outline. The topic, for which a sound basis thus exists, is of concern to a large number of countries and will apparently have an interesting role to play in contemporary international law".[69]

50. Barboza noted that the main aim of the topic was to promote a regime of liability by way of dealing with the consequences of the damage that might arise out of the transboundary harm caused by activities not prohibited by international law. Within an overall scheme of such a regime of liability he envisaged a proper role for prevention:

> "[I]n the absence of an agreed regime for assigning direct responsibility to individuals in certain cases, the State not only would be liable when there were injurious consequences of certain activities carried out in its territory or under its control, but also would be responsible for obligations of prevention, i.e. all the duties involved in avoiding or minimizing such consequences."[70]

[68] Ibid., p. 204, para. 10.

[69] Preliminary report (see footnote 5 above), p. 99, para. 9.

[70] Second report (see footnote 5 above), p. 146, para. 5.

51. Section 2 (1) of the schematic outline envisaged a duty for the acting State to provide the State likely to be affected by loss or injury to persons or things within the territory or control of that State because of an activity within its territory or control "with all relevant and available information, including a specific indication of the kinds and degrees of loss or injury that it considers to be foreseeable and the remedial measures it proposes". Similarly, section 2(5) provided for the acting State's obligation to cooperate in good faith to reach agreement with the affected State, in case of a dispute arising between the affected State and the acting State as to whether the measures proposed were sufficient to safeguard the interests of the former. For this purpose, it was further suggested that a non-binding fact-finding and conciliation procedure might be followed. The schematic outline, however, provided in the first sentence of sections 2(8) and 3(4) that failure to comply with these two obligations did not give rise to any right of action, while specifying that the acting State "has a continuing duty to keep under review the activity that gives or may give rise to loss or injury; to take whatever remedial measures it considers necessary and feasible to safeguard the interests of the affected State; and, as far as possible, to provide information to the affected State about the action it is taking."[71]

52. Reviewing the above propositions of the schematic outline, in particular the first sentence of sections 2(8) and 3(4), and in view of the doubts expressed by some members of the Commission about the value of procedures which could be neglected without engaging the responsibility of the State for wrongfulness, Barboza recommended that the first sentence in sections 2(8) and 3(4) should be deleted. In his view, failure to fulfil the obligations contained in sections 2 and 3 would entail drawing certain adverse procedural consequences against the acting State, which the outline itself had noted in section 5(4), according to which "the affected State shall be allowed a liberal recourse to inferences of facts and circumstantial evidence in order to establish whether the activity does or may give rise to loss or injury". Pointing out the relevance of the *Trail Smelter* case[72] in this respect, Barboza noted that, under the latter parts of sections 2(8) and 3(4) of the outline, the acting State had an obligation of due diligence to continuously monitor the activity and to take whatever remedial measures it considered necessary and feasible to safeguard the interests of the affected State. Moreover, where injury actually resulted, there was a provision to make reparation as provided in section 4(2) of the schematic outline.[73]

53. Subject to the above considerations, and noting that the obligation of prevention in a regime of liability for risk was only an obligation of due diligence, Barboza came to the conclusion that the obligation laid down at the end of sections 2 (8) and 3 (4) formed part of a regime of prevention whose primary effects, which came into play only after injury had occurred, were to aggravate the legal and material position of the source State.[74]

54. With respect to activities involving a risk of transboundary harm, Barboza concluded that a State engaging in such activities should notify, consult and negotiate a mutually accepted regime governing such an activity and, in the process, if the States so desired, they could even prohibit the activity.[75] He noted, however, that there was no requirement of prior

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[71] See fourth report (see footnote 2 above), p. 224.

[72] *Reports of International Arbitral Awards*, vol. III, p. 1905.

[73] Second report (see footnote 5 above), p. 149, para. 20; p. 150, paras. 24-25; p. 154, para. 41(c); and p. 159, para. 63. See also preliminary report (ibid.), p. 100, para. 16(c).

[74] Second report (ibid.), p. 160, para. 66. See also draft article 18 proposed by Barboza in his sixth report (ibid.), p. 108.

[75] Second report (ibid.), pp. 152-154, paras. 34-40. See also J. Barboza, "International Liability for the Injurious Consequences of Acts Not Prohibited by International Law and Protection of the Environment", *Recueil des cours ... 1994-III*, vol. 247, p. 332.

consent from the States likely to be affected to be complied with by the State initiating such activities in its territory.[76]

55. Elaborating on the various requirements of prevention, Barboza identified at least six elements:[77]

(a) Prior authorization of an activity where it involves risk of transboundary harm. Such authorization, once provided by the State of origin, could also constitute, in his view, evidence of "knowledge" on the part of the State within the requirements of the *Corfu Channel* case (i.e., evidence of "every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States"[78]);

(b) Risk assessment: this principle would require that every State undertakes an assessment to determine the extent and nature of the risk of the activity, including an evaluation of the possible impact of that activity on persons or property as well as on the environment of other States. Such a requirement, Barboza noted, was supported by the *Trail Smelter* case, principle 17 of the Rio Declaration on Environment and Development and, more notably, by the provisions of the 1991 Convention on Environmental Impact Assessment in a Transboundary Context. By way of further clarification of this principle, he observed that such an assessment could consider the type or source of energy used in a manufacturing activity, substances manipulated in production, the location of the activity and its proximity to the border area, the vulnerability of zones of affected States situated within the reach of an activity, etc. He also noted that by way of risk assessment States could also agree upon a list of substances that are considered to be dangerous or hazardous or list

[76] The arbitral tribunal in the *Lake Lanoux* case, after assigning the duty to the acting State to consider any negotiation in good faith with the affected State(s), asserted: "International practice reflects the conviction that States ought to strive to conclude such [agreements regarding the industrial use of international rivers ...] But international practice does not so far permit more than the following conclusion: the rule that States may utilize the hydraulic power of international watercourses only on condition of a prior agreement between the interested States cannot be established as a custom, even less a general principle of law". *International Law Reports, 1957*, p. 130.

[77] See Barboza, *Recueil des cours* ... (footnote 75 above), pp. 334-336. Other commentators also examined various components of the principle of prevention. One of them referred to the various obligations involved in the duty of prevention in a slightly different and more elaborate manner. According to him, the duty of prevention would involve the principle of cooperation in scientific research, systematic observations and assistance, the principle of exchange of information, the principles of prior notice, environmental impact assessment and consultation, the principle of risk assessment, warning and emergency assistance. T. Iwama, "Emerging Principles and Rules for the Prevention and Mitigation of Environmental Harm", in E. Brown Weiss (ed.), *Environmental Change and International Law: New Challenges and Dimensions* (United Nations University Press, 1992), pp. 107-123. See also other contributions in that volume, particularly those of E. Brown Weiss and F. Orrego Vicuña.

In its 1997 resolution on "Responsibility and liability under international law for environmental damage", the Institute of International Law noted that the principles of responsibility and liability were designed to encourage prevention and provide for restoration and compensation (article 2). The principle of prevention, it was suggested, included mechanisms concerning notification and consultation, regular exchange of information and the increased utilization of environmental impact assessments. It was further noted that the implications of the precautionary principle, the "polluter pays" principle and the principle of common but differentiated responsibility in the context of responsibility and liability should also be considered under preventive regimes (article 13).

[78] *I.C.J. Reports 1949*, p. 22. For an elaboration of the concept of prevention and in particular the requirement of prior authorization, see article 16 proposed by Barboza in the annex to his sixth report (footnote 5 above), p. 107; see also article 1 of the annex to his eighth report (ibid.), p. 67; and his ninth report (ibid.), para. 25.

the activities that are presumed to be harmful in respect of which the requirement of authorization of assessment could be made mandatory;[79]

(c) The principle of information and notification, which is a logical consequence of any conclusion reached on the risk involved upon assessment. This principle is well recognized in the context of the use of international watercourses;[80]

(d) The principle of consultations is essentially a principle of cooperation with a view to achieving acceptable solutions regarding measures to be adopted in order to prevent or minimize the risk of causing significant transboundary harm. Like Quentin-Baxter, Barboza also noted that any effort involved in such consultations should aim at a balance of interests of all the States concerned; and that in the absence or upon failure of consultations or negotiations held in good faith, the State of origin was free to proceed with the risk activity on its own, taking unilaterally such measures of prevention as it deemed appropriate under the circumstances, and further making necessary arrangements for reparation for any significant transboundary harm that arises in case of an accident;[81]

(e) The principle of unilateral preventive measures, which obligates the State of origin to take legislative, administrative and other actions to ensure that all appropriate measures are adopted to prevent or minimize the role of transboundary harm of the activity;[82]

(f) Finally, Barboza, like Quentin-Baxter, noted that the standard of due diligence that should be deemed applicable with regard to the principle of prevention was generally considered to be proportional to the degree of risk of transboundary harm in a particular case. Quentin-Baxter, however, while putting forward a similar proposition, stated that the standards of adequate protection should be determined with due regard to the importance of the activity and its economic viability. He further stated that standards of protection should take into account the means at the disposal of the acting State and the standards applied in the affected State and in regional and international practice.[83]

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[79] See article 11 proposed by Barboza in the annex to his sixth report (ibid.), p. 107. See also article 10 approved by the Working Group of the International Law Commission in 1996, (footnote 13 above), pp. 289-293. Barboza noted further: "So far as the draft articles are concerned, when assessing the impact of a particular activity on the environment, health or property of their own population, Governments would also have to take into account the possible transboundary effects." He suggested though that "Governments would undoubtedly delegate this task to the operators under their jurisdiction or control, and require the latter to provide at their own cost, the data necessary to make the assessment". Eighth report (footnote 5 above), p. 64, para. 17.

[80] See ibid., annex, article II; see also article 15 proposed in the ninth report and comments thereto, ibid., paras. 26-38.

[81] Eighth report (ibid.), pp. 65-67. Barboza also suggested in 1992 that obligations of prevention be attached to States and that "it might be more practical to consign all the obligations of prevention (both the procedural obligations and those that have been described as 'unilateral' or as obligations of due diligence) to an annex consisting of purely recommendatory provisions to guide States in better complying with the articles in the main text". ibid., para. 11. However, this suggestion was not found acceptable, and as a result these were reincorporated into the main text of the draft articles. See ninth report, ibid., para. 9.

[82] Barboza, *Recueil des cours* ... (footnote 75 above), p. 336. See also Barboza's comments regarding article 8 on prevention, seventh report (footnote 5 above), p. 77, para. 20, and article 16 (ibid., p. 84, para. 45). See also *Official Records of the General Assembly, Fifty-first session, Supplement No. 10* (A/51/10), commentary to articles 4 and 7 recommended by the Working Group, p. 266, paras. (3) and (4), and p. 286, para. (1).

[83] Schematic outline, sect. 5.

H. Draft articles provisionally adopted by the Commission in 1994 and draft articles recommended by its Working Group in 1996

56. Articles adopted provisionally by the Commission in 1994 dealt with prevention in terms of duties of prior authorization (article 11), risk assessment (article 12), adoption of legislative, administrative and other actions by States (article 14), as well as duties to notify and inform (article 15), to exchange information (article 16), to provide information to the public (article 16 *bis*) and to consult (article 18), the rights of States likely to be affected (article 19) and factors relevant for achieving an equitable balance of interest (article 20).

57. The question arose whether measures aimed at preventing further harm, including any measures to be taken by way of restoration or rehabilitation of the situation prior to the incidence of harm caused by an accident, should be regarded as a legitimate part of the concept and duty of prevention.

58. Barboza had proposed in his ninth report an article 14 which incorporated the concept of prevention *ex post*, placing a duty on the source State to ensure through legislative, administrative or other measures that the operator of a risk-bearing activity took all necessary measures, including the use of best available technology to contain and minimize harm or, in the event of an accident, to cushion the unleashed effect before it reached the border or to adopt other measures to help contain such effects.[84]

59. He elaborated further on the concept of prevention *ex post* and also dealt with the concept of "response" measures in his tenth report. He referred to a number of conventions which dealt with those concepts. With respect to response measures, taking the example of the Convention on the Regulation of Antarctic Mineral Resource Activity, it was suggested that these would include measures of prevention *ex post* as well as some types of measures known as response action, as in the case of clean-up and removal, whose purpose was not to limit or minimize transboundary harm.

60. In order to meet the objection raised by some members of the Commission to the concept of prevention *ex post*,[85] Barboza proposed to replace it by the concept of response measures and to define the latter only to mean prevention *ex post*: "'Response measures' means any reasonable measures taken by any person in relation to a particular incidence to prevent or minimize transboundary harm".[86]

61. The Drafting Committee, which considered the proposal made by Barboza in article 14 to include measures of prevention *ex post* in the concept of prevention, rejected his view and opted for the approach taken by those members who opposed its inclusion.

62. Accordingly, article 14 provisionally adopted by the Commission in 1994 did not include measures of prevention *ex post* in the concept of prevention. As noted in the commentary, "[t]he expression 'prevention' in this article, pending a further decision by the Commission, is intended to cover only those measures taken before the occurrence of an accident in order to prevent or minimize the risk of the occurrence of the accident".[87]

63. The Commission, however, reversed its position in 1995. It noted that the Special Rapporteur's original proposal of including prevention *ex post* under prevention and not

[84] Ninth report (footnote 5 above), para. 19.

[85] Tenth report (ibid.), para. 7.

[86] Ibid., paras. 7-22.

[87] *Yearbook ... 1994*, p. 170, para. (11) of the commentary to draft article 14.

reparation was "prudent and reasonable".[88] The Commission further noted that the same approach had been adopted in several agreements.

64. The Working Group of the Commission reviewed the draft articles on the topic in 1996 and recommended them for adoption by the Commission.[89] In addition, the Working Group adopted article 4 on prevention (a revised version of article 14 provisionally adopted by the Commission in 1994) as a statement of general principle:

> "States shall take all appropriate measures to prevent or minimize the risk of significant transboundary harm and, if such harm has occurred, to minimize its effects."

65. It can be seen that the concept of prevention, as adopted, includes measures to be taken to contain and minimize the effects of harm resulting from an accident, in addition to measures required to be taken by way of management of risk prior to any such accident. Thus, the Working Group endorsed the Commission's view that the concept of prevention should include measures of prevention *ex ante* and measures *ex post*.[90]

66. The above-mentioned recent resolution of the Institute of International Law on "Responsibility and liability under international law for environmental damage" referred to the need for the adoption of additional mechanisms like preparation of necessary contingency plans and appropriate restoration (safety) measures directed to prevent further damage and to control, reduce and eliminate damage once it is caused as part of the concept of prevention (article 14). It further suggested that failure to comply with the obligations on response action and restoration should engage civil liability of operators. Compliance with the obligations, however, would not preclude responsibility for harm actually caused (article 15). States and other entities undertaking response action or restoration are entitled to be reimbursed by the entity liable for the cost incurred (article 16).

67. Together with article 6 on cooperation, article 4 recommended by the Working Group provides the basic foundation for the remaining articles on prevention. The obligation for prevention extends to taking appropriate measures to identify activities creating a risk of causing significant transboundary harm. This is an obligation which is of a continuing character.

68. The obligation involved in article 4 is an obligation of conduct and not of result. Accordingly, the State is obliged to take the necessary legislative, administrative and other actions for enforcing its laws, decisions and policies. This also involves an obligation of due diligence, which is defined by a standard broader than the "national standard".[91] As

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[88] *Official Records of the General Assembly, Fiftieth Session, Supplement No. 10* (A/50/10), para. 390.

[89] See articles 9-19 and commentaries thereto, *Official Records of the General Assembly, Fifty-first Session, Supplement No. 10* (A/51/10), pp. 287-316.

[90] Barboza noted in his tenth report: "It is thus clear that the concept of prevention is strictly applicable both to activities to avoid incidents that can lead to transboundary harm and to activities to prevent the effects of the incident from reaching their full potential. Prevention of incidents, or prevention *ex ante*, is just one aspect of prevention in general, which would include prevention *ex post*, because the fewer incidents there are, the less harm there will be. It is thus not possible, methodologically, to include in the chapter on reparation actions *ex post* to prevent harm." Tenth report (footnote 5 above), para. 11.

[91] The Institute of International Law stated that in this respect that the obligation of due diligence must be objectively measured not only in accordance with generally accepted international rules and standards but also in accordance with objective standards relating to the conduct to be expected from a good Government (article 3 of the resolution on "Responsibility and liability under international law for environmental damage"). Failure to enact appropriate rules may not amount to a breach of an obligation but may result in its responsibility if harm ensues as a consequence, including damage caused by operators within the State's jurisdiction and control (article 4).

noted in the *Donoghue v. Stevenson* case,[92] one "must take reasonable care to avoid acts or omissions which [one] can reasonably foresee would be likely to injure [one's] neighbour". A "neighbour" is one who is closely and directly affected by the act whom one ought reasonably to have in contemplation as being so affected when one is concerned with acts and omissions in question. As observed by the Commission, the due diligence standard must further be directly proportional to the degree of risk of harm. Issues such as the size of the operation, its location, special climatic conditions, materials used in the activity and whether conclusions drawn from the application of these factors in a specific case are reasonable are among the factors to be considered. What is a reasonable standard of care or due diligence may change with time. Accordingly, discharge of the due diligence obligation requires States to keep abreast of technological changes and scientific developments.[93]

69. As stated in the Rio Declaration, standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular, developing countries.[94]

70. The obligation of prevention further obliges a State to undertake unilateral measures to prevent or minimize the risk of significant transboundary harm. Such an obligation requires States to take measures to ensure reduction of harm to the lowest point, consistent with available scientific knowledge and technology as well as economic capacity.

IV. Scope of the draft articles

A. Activities coming within the scope of the topic

71. Identifying activities coming within the scope of the present topic is a task in which the Commission has engaged from the very beginning of its work. Quentin-Baxter considered that the topic should deal with a wide variety of activities.[95] A majority within the Commission later endorsed the view that the "draft could be limited to transboundary problems pertaining to the physical environment and that questions involving the most delicate problems that might arise in the economic sector could be set aside".[96]

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[92] [1932]A.C., p. 580 (H.L. (Sc)).

[93] See the commentary to article 4, *Official Records of the General Assembly, Fifty-first Session, Supplement No. 10* (A/51/10), pp. 266-269.

[94] Principle 11. See also principle 23 of the Stockholm Declaration. It is the view of the Commission, therefore, "that the economic level of the States is one of the factors to be taken into account in determining whether a State has complied with its obligation of due diligence" (para. (12) of the commentary to article 4). Ibid.

[95] The following activities were mentioned: "use and regulation of rivers crossing or forming an international boundary and avoidance of damage from floods and ice; use of land in frontier areas; spread, across national boundaries, of fire or any explosive force, or of human, animal or plant disease; activities which may give rise to transboundary pollution of fresh water, of coastal waters or of national airspace, or to pollution of the shared human environment, including the oceans and outer space; development and use of nuclear energy, including the operation of nuclear installations and nuclear ships and the carriage of nuclear materials; weather modification activities; overflight of aircraft and space objects involving a risk of accidental damage on the surface of the earth, in airspace or in outer space; and activities physically affecting common areas or natural resources in which other States have rights or interests." Fourth report (footnote 2 above), p. 202, footnote 8.

[96] See the remarks of the Chairman of the Commission, Mr. Reuter, when introducing the Commission's report in the Sixth Committee at the thirty-seventh session of the General Assembly. *Official Records of the General Assembly, Thirty-seventh Session, Sixth Committee, 37th meeting*, para. 12. Although some

72. Quentin-Baxter's reference to "the physical environment"[97] had given rise to debate within the Commission and the General Assembly both in 1980 and 1982. In response, the Special Rapporteur stated: "It should therefore be confirmed that there was never an intention to propose a reduction in the scope of the topic to questions of ecological nature, or to any other subcategory of activities involving the physical uses of territory; nor, indeed, did any speaker in the Sixth Committee urge the desirability of such a reduction."[98]

73. It is understood that the topic should deal with those activities which have a risk of causing substantial or significant transboundary harm. It was explained by Quentin-Baxter that the term "risk" in this connection might refer to an inherent danger and might even imply an exceptionally high level of danger – a connotation more exactly expressed, in his view, by the term "ultra-hazard". Further, an "ultra-hazard" was perceived as a danger that rarely materialized but that might, on that rare occasion, assume catastrophic proportions. It could also include, in his view, dangers such as air pollution that were insidious and might have massive cumulative effects.

74. Accordingly, article 1 proposed by Quentin-Baxter in his fifth report provided on the scope of the draft articles as follows:[99]

> "The present articles apply with respect to activities and situations which are within the territory or control of a State, and which give rise or may give rise to a physical consequence affecting the use or enjoyment of areas within the territory or control of any other State."

The word "situation" was further explained to mean "a state of affairs, within the territory or control of the source State, which gives rise or may give rise to physical consequences with transboundary effects".[100] The Commission took the view at an early stage of its work that the scope should not be settled or narrowed until the content could be evaluated.[101]

75. Barboza approached the problem from a different angle. According to him, the concept of danger inherent in the concept of risk "is not absolute, but relative. It could vary, for example, according to the geographical location of the activity in question: location in the interior of a country with extensive territory is not the same as in a smaller country, or near a border, or on an international river, or in an area where there are steady or prevailing winds."[102]

76. Moreover, he felt that the articles of the proposed draft would apply "even if the risk is not foreseeable in the general sense, provided that the full scope of that risk is known to the State of origin".[103]

77. As regards situations of the type referred to in article 1 proposed by Quentin-Baxter, Barboza noted that there were two types of such situations: those arising from a human activity, for example, the construction of a dam or the accumulation of highly toxic materials; and second, those arising naturally in the absence of human activity, for example, spontaneous forest fires, pests, floods and the like. According to him, only situations of the

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delegations in the Sixth Committee were disappointed, most were of the same opinion as the majority of the Commission. Fourth report (footnote 2 above), p. 204, para. 12.

[97] Third report, ibid., p. 61, para. 48.

[98] Fourth report, ibid., p. 206, para. 17.

[99] Fifth report, ibid. p. 155.

[100] Ibid., p. 166, para. 31.

[101] Fourth report, ibid., p. 204, para. 10.

[102] Third report (footnote 5 above), p. 49, para. 10.

[103] Ibid., p. 50, para. 14.

first type would fit within the regime because they arise from activities involving risk[104] and not the latter which would come under regime of responsibility for an act or omission in respect of the situation.[105] In this case, however, the State may absolve itself from any liability by demonstrating that it had employed all the means at its command to prevent it.[106]

78. As for activities that cause harm in the normal course of their operation, Barboza felt that they amounted to a continuous violation of the obligation of a State to prevent all significant (i.e. above a threshold of tolerance) transboundary harm caused by intentional or negligent State conduct. Accordingly, in his view, such a violation would amount to a wrongful act involving State responsibility.[107]

79. Barboza also endorsed the various conclusions drawn by the Commission during the time of Quentin-Baxter on the scope of the topic, which included three limitations or criteria: first, the transboundary element: effects felt within the territory or control of one State must have their origin in an activity or situation which takes place within the territory or control of another State; second, the element of a physical consequence: this involves a connection of a specific type, i.e. the consequence has to stem from the activity in question by reason of natural law. Thus, the causal relationship between the activity and the harmful effects has to be established through a chain of physical events. Third, in keeping with the *Lake Lanoux* decision, these physical events must have social repercussions.[108]

80. Rejecting suggestions to expand the scope to include economic and social activities, Barboza reiterated that the topic should be confined to those activities with physical consequences where a cause-and-effect relationship could easily be established between the activity and the injury.[109]

81. While Barboza recommended several different formulations on the scope of the draft articles, the one provisionally adopted in 1994 read as follows:

> "The present articles apply to activities not prohibited by international law and carried out in the territory or otherwise under the jurisdiction or control of a State

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[104] Barboza noted moreover that several factors engendered responsibility in respect of human activities: unjust enrichment, a disruption of the balance of rights and interests of States, and, accordingly, a violation of the principle of equality of States before the law. Ibid., p. 51, para. 28.

[105] Ibid, paras. 25-26.

[106] Ibid., para. 30.

[107] See Barboza, *Recueil des cours* ... (footnote 75 above), p. 319. Zemanek distinguished between those activities which cause injury only in the event of an accident and those which permanently cause the emission of harmful substances and concluded that in the latter case, while society seems to accept a certain degree of pollution, if the limit established was exceeded either by accident or by a change in technical standards, the resulting damage must be compensated for. K. Zemanek, "La responsabilité des Etats pour faits internationalement illicites ainsi que pour faits internationalement licites", *Responsabilité internationale* (Paris, Pedone, 1987), p. 17, cited in second report (footnote 5 above), p. 151. Gunther Handl excluded activities which involve permanent emissions of harmful substances from the scope of the present topic. In his view, "where States intentionally discharge pollutants in the knowledge that such discharge is bound to cause, or will cause with substantial certainty, significant harmful effects transnationally the source State will clearly be held liable for the resulting damage. The causal conduct will be deemed internationally wrongful. Most cases of injurious transboundary environmental effects involve continuous transboundary pollution. Most of these situations consequently intrinsically involve questions of State responsibility." G. Handl, "Liability as an obligation established by a primary rule of international law: Some basic reflections on the International Law Commission's work", *Netherlands Yearbook of International Law*, 1985, vol. XVI, pp. 58-59, cited in ibid.

[108] *Yearbook ... 1987*, vol. II (Part Two), p. 40, para. 126.

[109] Ibid., p. 44, para. 155.

which involve a risk of causing significant transboundary harm through their physical consequences."[110]

82. The Commission considered the matter of the scope of the topic but could not arrive at any final conclusion on the type of activities required to be encompassed. At its forty-seventh session, in 1995, the Commission established a Working Group on the identification of dangerous activities.[111] It reviewed the ways in which the scope of some multilateral treaties dealing with transboundary harm and with liability and prevention had been defined in terms of the activities or substances to which they applied. The Working Group recognized that, while a precise definition of activities might be difficult to achieve, at some stage it would be useful to specify a list of activities. However, it took the view that the work of the Commission could proceed for the time being taking into consideration the type of activities listed in various conventions dealing with the issues of transboundary harm, as for example, the 1991 Convention on Environmental Impact Assessment in a Transboundary Context, the 1992 Convention on Transboundary Effects of Industrial Accidents and the 1993 Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment.

83. The Commission accepted these conclusions. Further, it felt that the specification of the activities falling within the scope of the subject would depend upon the provisions on prevention to be adopted by the Commission and the nature of the obligations involved.[112]

84. The Working Group of the Commission accordingly proposed in 1996 that article 1 read as follows:

"The present articles apply to:

(a) activities not prohibited by international law which involve a risk of causing significant transboundary harm [; and

(b) other activities not prohibited by international law which do not involve a risk referred to in subparagraph (a) but nonetheless cause such harm;] through their physical consequences."[113]

85. While the members of the Working Group had different reasons for doing so, they all supported the view that at the current stage there was no need to spell out the activities to which the draft articles applied. The article thus recommended covers those activities which involve a "risk of causing significant transboundary harm".[114] Moreover, the element of "risk" was intended to limit the scope of the topic and excluded those activities which caused transboundary harm in their normal operation, such as, for example, creeping pollution.[115]

86. The criterion of "physical consequences", as has already been explained, would exclude transboundary harm caused by State policies in monetary, socio-economic or similar

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[110] *Yearbook ... 1994*, vol. II (Part Two), p. 161. For an earlier formulation proposed on a trial basis by Barboza as draft article 2 giving a list of dangerous substances, see his sixth report (footnote 5 above), pp. 87-89 and 105, paras. 15-21 and annex. It is noted that the "Sixth Committee was not generally favourable to the idea of a list of dangerous substances". See seventh report, ibid., p. 79, para. 26.

[111] *Official Records of the General Assembly, Fiftieth Session, Supplement No. 10* (A/50/10), para. 407.

[112] Ibid., p. 209, para. 409. For the view that the articles on prevention should essentially be directed at the establishment of an environmental impact assessment system and that the activities to which they applied should be described in precise detail, see *Yearbook ... 1993*, vol. II (Part Two), p. 24, para. 119.

[113] *Official Records of the General Assembly, Fifty-first Session, Supplement No. 10* (A/51/10), p. 238.

[114] For a definition of "significant transboundary harm" and "risk", see ibid., p. 258 (article 2).

[115] Ibid., p. 257, para. (25) of the commentary to article 1.

fields. It implies a connection of a very specific type. It means that the activities covered in these articles must themselves have a physical quality and the consequences must flow from that quality, not from an intervening policy decision.

B. The concept of significant harm: the question of a threshold

87. In defining the scope of the topic, a further question arises as to the type of harm that is required to be prevented. It is admitted that a certain level of harm is inevitable in the normal course of pursuing various developmental and other beneficial activities where such activities have a risk of causing transboundary harm. However, it is equally admitted that substantial transboundary harm is to be avoided or prevented by taking all measures practicable and reasonable under the circumstances. This was the approach taken by the "Montreal Rules" adopted by the International Law Association.[116] It was thus recognized that "it is impossible to formulate a general rule of international law fixing a level at which the damage produced by transfrontier pollution can be deemed to be substantial".[117] As has been pointed out, the "yardstick must rather be determined in the light of the technical standard and the level of pollution generally accepted in the region concerned or even of the level of general damage caused by human influence on the environment".[118]

88. Quentin-Baxter, while approvingly quoting the above position of the International Law Association, further made the point that "the responsibility of the source State will not be engaged unless the State authorities had the means of foreseeing that loss or injury was likely to be caused, as well as the duty to prevent its occurrence".[119] Moreover, he observed that, while the occurrence of loss or injury was a pure question of fact, "its legal significance has to be estimated in whatever context the States concerned have themselves provided".[120] In other words, if States concerned were not to regard the kind of loss or injury that occurred as giving rise to any right of reparation, that circumstance would clearly be decisive of any claim. In this sense, identifying or fixing the level at which harm is to be regarded as substantial or significant is not entirely a function of arriving at the same through pure scientific evidence and technique, even though inputs from that angle would not only be desirable but necessary.

89. The above theme reflected the policy of the schematic outline presented by Quentin-Baxter. Accordingly, the important objective of the scheme was to promote agreements between States in order to reconcile, rather than inhibit, activities which were predominantly beneficial, despite some nasty side effects. It was further recommended that such agreements should aim at mutual accommodation rather than mutual restriction, offer adequate safeguards and arrange for a better distribution of cost and benefits.[121] It was therefore suggested that agreements to be entered into between States might deal with (a) the way in which a loss or injury should be characterized, and whether the kind of loss or injury was foreseeable; (b) whether the loss or injury was substantial; and (c) whether the quantum of reparation was affected by the question of sharing, or by a change in the circumstances

[116] Resolution No. 2, 1982, ILA, *Report of the Sixtieth Conference, Montreal, 1982* (London, 1983), pp. 1-3.

[117] Paragraph 8 of the comments on article 3 submitted by the Committee on Legal Aspects of the Conservation of the Environment, ibid., p. 162, cited in Quentin-Baxter, fourth report (see footnote 2 above), para. 27.

[118] Paragraph 9 of the comments on article 3, ibid., p. 163.

[119] Fourth report (footnote 2 above), para. 28.

[120] Third report, ibid., para. 27.

[121] Ibid., paras. 37 and 39.

that existed when the activity which gave rise to the loss or injury was established.[122] Furthermore, in order to assist States, section 6 of the schematic outline provided a list of factors which could be taken into consideration by way of balancing the interests involved.

90. Quentin-Baxter therefore concluded that "not all transboundary harm is wrongful; but substantial transboundary harm is never legally negligible". Thus, "on the scale of harm, what lies on the far side of the point of wrongfulness is prohibited; and disobedience of that prohibition engages the rules of State responsibility. On the near side of the point of wrongfulness, activities which generate, or threaten to generate, substantial transboundary harm are carried on subject to the interests of other States. Those interests may be quantified ... or they may be at large."[123]

91. Barboza also generally agreed with Quentin-Baxter. He hoped that, with respect to activities involving a risk of causing transboundary harm, "injury was the consequence of lawful activities and had to be determined by reference to a number of factors". "When building a regime", he added, "States might negotiate the extent of the injury flowing from the activities contemplated in the agreement and thus resolve, among themselves, the question of the threshold of injury above which the liability of a State would be engaged".[124] Some members of the Commission and delegations in the Sixth Committee agreed with the approach that the concept of danger was relative and that it was for the States to identify the levels at which it could be regarded as "substantial", while others preferred a clearer indication of the concept of injury or the definition of "substantial harm" by giving reference to specific types of dangerous but lawful activities or substances.

92. Even though Barboza was of the view that no specific list or specification of dangerous substances could be attempted satisfactorily to define the concept of injury and hence the scope of the present topic, in order to accommodate the persistent view of some, he explored the possibility of listing not activities but substances which were inherently dangerous so that certain activities relating to them would most likely carry the risk of causing transboundary harm.[125]

93. The above proposal of Barboza elicited three general views within the Commission: some members welcomed the list of substances, three members approved it only if such a list would be exhaustive, and yet other members did not agree with formulating any list. In view of this, as a further clarification, Barboza observed that a list of such dangerous activities or substances would not in any case eliminate the need for an assessment of the

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[122] Fourth report, ibid., para. 54.

[123] Second report, ibid., paras. 59-60.

[124] *Yearbook ... 1987*, vol. II (Part Two), pp. 40-41, para. 127.

[125] See article 2, annex to the sixth report (footnote 5), p. 105. See also ibid., pp. 87-89, paras. 15-21.

The Model adopted by Barboza for this purpose was based on a draft prepared by a Committee of Experts for the European Committee on Legal Cooperation of the Council of Europe on State liability for dangerous activities. That draft defined dangerous substances as those which created a significant risk of harm to persons or property or the environment such as flammable and corrosive materials, explosives, oxidants, irritants, carcinogens and toxic, ecotoxic and radiogenic substances as indicated in an annex.

Schwebel suggested that only a certain type of harm that had an impact of some consequence, for example, for health, industry, agriculture or environment, in the affected State or affected transboundary areas would require to be prevented. According to another observation, transboundary harm involving radiological, toxic or otherwise highly dangerous substances tended to be counted automatically as significant transboundary harm and hence should be prevented. See Handl, "National Uses of Transboundary Air Resources: The International Entitlement Issue Reconsidered", *Natural Resources Journal*, vol. 26 (1986), p. 420. It may also be observed that different standards are prescribed as safe levels for clean air, drinking water or exposure to heat or radiation. Similarly, the levels of pesticides and chemicals used in agriculture or other fields have also given rise to standards of safe use.

risk involved on the basis of many factors which had to be taken into account. He pointed out that such factors could include: the type or source of energy used in a manufacturing activity, the substances manipulated in production, the location of the activity and its proximity to the border area, the vulnerability of the zones of affected States situated within the reach of the effect of an activity, etc.[126]

94. Article 2 (a) provisionally adopted by the Commission in 1994 defined "risk of causing significant transboundary harm" as encompassing "a low probability of causing disastrous harm and high probability of causing other significant harm". This formulation treated threshold as a combined effect of risk and harm instead of separately dealing with "risk" and "harm" and required that such a combined effect should reach a level that was deemed significant.

95. The above formulation was later approved in 1996 by the Working Group of the Commission, which felt that obligations of prevention imposed on States should be not only reasonable but also sufficiently limited, as the activities under discussion were not prohibited by international law; there was a great need to reconcile the freedom of States in utilizing resources within their own territories for the development and benefit of their population with the requirement not to cause significant harm to other States.[127]

96. The proposed definition includes activities having a high probability of causing harm which, while not disastrous, is still significant. It would also include activities which have a low probability of causing disastrous harm, i.e., ultra-hazardous activities. It would, however, exclude activities where there is a very low probability of causing significant transboundary harm.

97. The concept of "significant harm" was further clarified to mean something more than "detectable" or "appreciable" but not necessarily "serious" or "substantial". The harm must lead to real detrimental effects on such aspects as human health, industry, property, environment or agriculture in other States, which could be measured by factual and objective standards. It was also suggested that, considering that the activities involved are not prohibited by international law, "the threshold of intolerance of harm cannot be placed below 'significant'".[128]

98. The term "significant" thus denotes factual and objective criteria and involves a value judgement which depends on the circumstances of a particular case and the period in which such determination is made. In other words, a deprivation which is considered to be significant at one time may not be regarded so later.[129]

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[126] See *Yearbook ... 1990*, vol. II (Part Two), pp. 92-93, paras. 479-483; and Barboza, *Recueil des cours* ... (footnote 75 above), p. 335.

[127] *Official Records of the General Assembly, Fifty-first Session, Supplement No. 10* (A/51/10), p. 259, para. (2) of the commentary to article 2. Quentin-Baxter had observed: "it is important, as a matter of legal policy, that duties of reparation should not be separated from, or substituted for, duties of prevention. Treaty regimes provide ample evidence that compensation is a less adequate form of prevention – prevention after the event. It is a justified way of filling gaps when full prevention is not possible – either in absolute terms or in terms of the economic viability of a beneficial activity; but it should not be allowed to become a tariff for causing avoidable harm". Second report (footnote 2 above), para. 91.

[128] *Official Records of the General Assembly, Fifty-first Session, Supplement No. 10* (A/51/10), pp. 259-260, paras. (4) and (5) of the commentary to article 2. The Working Group also defined significant harm as one that is not *de minimus* or that is not negligible. The commentary noted a number of examples where the idea of a threshold is reflected using "significant", "serious", or "substantial" as relevant criteria. Ibid., p. 260, para. (6).

[129] Ibid., p. 261, para. (7).

C. The criterion of transboundary harm: the concept of territory, control and jurisdiction

99. It may be recalled that Quentin-Baxter had proposed five draft articles in 1984 in his fifth report, article 1 of which defined the scope of the articles,[130] i.e. activities or situations which are within the territory or control of a State and which give rise or may give rise to a physical consequence affecting the use or enjoyment of areas within the territory or control of other States.

100. The terms "territory or control" were defined in article 2 (1) as follows:

(a) In relation to a coastal State, as extending to maritime areas insofar as the legal regime of any such area vested jurisdiction in that State in respect of any matter;

(b) In relation to a State of registry, or flag State, of any ship, aircraft or space object, as extending to the ships, aircraft and space objects of that State while exercising a right of continuous passage or overflight through the maritime territory or airspace of any other State;

(c) In relation to the use or enjoyment of any area beyond the limits of national jurisdiction, as extending to any matter in respect of which a right was exercised or an interest asserted.[131]

101. The definition thus proposed by Quentin-Baxter includes first the land territory over which a State enjoys sovereignty, the maritime zones over which the coastal State enjoys sovereignty, sovereign rights or exclusive jurisdiction and the airspace above its territory or territorial sea under its jurisdiction. It also takes into account the jurisdiction a State enjoys as a flag State over ships, aircraft and space objects when they operate on the high seas or in the airspace. The right of jurisdiction and control enjoyed by the coastal State is subject to the right of innocent passage enjoyed in the territorial sea. Further, the jurisdiction and control of the flag State in the high seas or in outer space is subject to the requirement of reasonable use to accommodate similar rights of other flag States.

102. In addition, it may also be noted that the exercise of sovereign rights or exclusive jurisdiction could also be subject to any other relevant principles of international law, treaties or other arrangements agreed to or entered into between two States.[132]

103. Thus defined, the scope of the topic concerned "effects felt within the territory or under the control of a State, but arising as a consequence of an activity or situation occurring, wholly or partly, within the territory or under the control of another State or States".[133]

104. Barboza, while adopting the above approach, also referred to the concept of control as including the situation referred to by the International Court of Justice in the *Namibia* case.[134] It may be recalled that the Court, after holding South Africa responsible for having created or maintained a situation which it had declared illegal and finding South Africa under an obligation to withdraw its administration from Namibia, nevertheless attached certain legal consequences to the de facto control over Namibia. It further stated that "[physical

[130] Fifth report (footnote 2 above), p. 155.

[131] Ibid.

[132] Ibid., pp. 157-158.

[133] Ibid., p. 157, para. 7.

[134] *Yearbook ... 1987*, vol. II (Part Two), p. 45, para. 163.

control of a territory, and not sovereignty or legitimacy of title, is the basis of State liability for acts affecting other States".[135]

105. In the light of the above, the draft articles provisionally adopted by the Commission in 1994 limited the scope to activities "carried out in the territory or otherwise under the jurisdiction or control of a State" (article 1) and defined further transboundary harm as "harm caused in the territory of or in other places under the jurisdiction or control of a State other than the State of origin, whether or not the States concerned share a common border" (article 2 (b)). It was explained that even though the expression "jurisdiction or control of a State" was a more commonly used formula in some instruments, it was found useful to mention also the concept of territory in order to emphasize the territorial link, when such a link existed between activities under these articles and a State.[136]

106. Barboza dealt with the problem of extending the scope of the present topic to activities which harmed the global commons per se in his sixth report in 1990. He felt that harm to the environment per se as an independent ground for liability was something new and that, if such harm was to be measured on the basis of its impact on persons or property, it was difficult, at the current state of scientific development, to measure with a sufficient degree of precision what identifiable harm to the global commons would result in identifiable harm to human beings or property. He explained that, even though an overall correlation could be made between harm to the global commons, the environment in general and the well-being and quality of life of human beings, that did not seem to be enough to establish the casual link necessary under the international liability topic as currently formulated. He noted that this would require, perhaps, a different definition of harm and a different threshold of harm.[137] He pointed out a further difficulty: in the case of harm to the global commons, the determination of the affected States would remain uncertain. It was noted that only one Convention came close to imposing liability for harm to the environment per se, namely, the Convention on the Regulation of Antarctic Mineral Resources Activities, which showed that the matter was of only very recent origin.

107. According to Barboza, a review of State practice seemed to indicate that harm to the global commons had been dealt with through identification of certain harmful substances or areas of the global commons and making them subject to suitable regulations, such as restricting or banning the use of certain substances or banning any activity which would cause harm to certain parts of the global commons. This trend, in Barboza's view, indicated that the problem was better dealt with under the topic of State responsibility.[138]

108. Several members of the Commission also addressed the problem of the global commons. While everyone agreed that the problem of the continuous deterioration of the global commons was a serious matter, some members felt that the question should not be dealt within the present topic. They noted that the subject raised difficulties in determining the State or States of origin, the affected State, as well as the assessment and determination of harm. In addition, they referred to the right to compensation and the obligation of prevention of harm which were difficult to implement if no single State could be identified as the affected State or the source State. Further, while some of them felt that the subject could be dealt with separately under the long-term programme of the Commission, others thought that the topic was not ripe enough to be considered by the Commission.

[135] *I.C.J. Reports 1971*, p. 54, para. 118.

[136] *Yearbook ... 1994*, vol. II (Part Two), pp. 161-162, para. (4) of the commentary to article 2.

[137] *Yearbook ... 1990*, vol. II (Part Two), p. 104, para. 527.

[138] Ibid., p. 104, para. 529.

109. Another group of members, however, felt that the matter required serious attention and that the concept of harm to the global commons was increasingly finding expression in numerous international and regional forums and decisions. According to them, the principles of common concern of mankind and of the protection of inter-generational equities being developed within the context of sustainable development and environmental law provided the content of the concept of harm to the global commons. For these reasons, a few members suggested that the topic of the global commons should be taken up separately by the Commission without delay.[139]

110. In view of the above, article 2 (b) provisionally adopted by the Commission in 1994 excluded activities which caused harm only in the territory of the State within which the activity had been undertaken or those activities which harmed the global commons per se but without any harm to any other State.[140]

V. Scope of the draft articles: conclusions recommended for endorsement

111. The work of the International Law Commission on the matter of the scope of the draft articles on international liability arising out of acts not prohibited by international law has culminated in some important conclusions on the activities to be covered, on the threshold of harm or damage required for triggering the obligation and on specifying or clarifying the concept of "transboundary damage". These conclusions are relevant for the purpose of the present assignment even though it is to be limited only to the consideration of the question of the duty of prevention and would not extend to the question of liability. Accordingly, they may be noted and endorsed:

(a) Article 1 (a) proposed by the Working Group of the Commission in 1996 emphasizes that the draft articles are limited, in their application, to those activities which involve a risk of causing significant transboundary harm through their physical consequences. That is, activities covered and the resulting transboundary consequences must have a physical quality, where a relationship between cause and effect could be established. Accordingly, harm caused by State policies in monetary, socio-economic or similar fields would be excluded;

(b) Also excluded are activities which result in significant transboundary harm over a period of time after interaction with various other factors, i.e. harm caused due to creeping pollution or harm arising from multiple sources where a strict chain of cause and effect cannot be established;

(c) It is equally clear, as our focus is on activities involving a *risk* of causing transboundary harm, that activities which actually or continuously cause significant harm in their normal operation are also excluded;

(d) Harm or damage required to be prevented is only significant harm or damage. That is, damage which is minimal or negligible and which is only detectable or appreciable but no more is not covered. Activities which have a low probability of causing disastrous harm, i.e. ultra-hazardous activities, are covered, as are those which have a high probability of causing other significant harm, i.e. hazardous activities. Accordingly, activities which have a very low probability of causing significant transboundary harm are not covered;

[139] *Yearbook ... 1991*, vol. II (Part Two), pp. 117-118, paras. 254-259.

[140] *Yearbook ... 1994*, vol. II (Part Two), p. 164.

(e) Establishing a threshold of harm and actually defining what is significant in respect of particular activities is a function of scientific, temporal and political factors among other things. While scientific and technical input in identifying significant harm with respect to a given activity is important, what is not tolerated and hence "significant" is a function of accommodating conflicting but sometimes legitimate and multiple interests. Standards involved could vary from country to country and region to region as well as in time.[141] In establishing a threshold of significant harm, the combined effect of "risk" and "harm" would be the determining factor;

(f) The scope of the articles is to be limited to activities carried out in the territory or otherwise under the jurisdiction or control of the State having a risk of causing significant harm in the territory of or in other places under the jurisdiction or control of the State other than the State of origin, *whether or not the States concerned share a common border*. While the concept of jurisdiction or control is noted, the territorial link should be emphasized wherever such link exists between activities under consideration and a State. Further, the various concepts involved, i.e. "territory", "control" or "jurisdiction", have to be understood in accordance with the meaning given to them under relevant principles of international law, treaties or other arrangements agreed to or entered into between States. With respect to "control", it is the physical control of a territory and not sovereignty or legitimacy of title which would set in motion relevant obligations;

(g) Further, harm caused to the global commons which did not have social repercussions or effects upon persons or property or the interests of a State, where cause and effect cannot be linked, i.e., harm caused to the global commons per se, is also excluded from the scope of the present exercise;

(h) Activities excluded from the scope of the present exercise which result in significant harm are regulated in accordance with the applicable principles of international law or require regulation in accordance with legal regimes to be developed separately.

112. If we accept the above conclusions, article 1 (a) and article 2 as proposed by the Working Group in 1996 could be endorsed without any further amendment. However, article 1 (b) dealing with activities which actually cause harm would have to be deleted. This provision was in any case placed within square brackets for further consideration at that time and the above review of the matter would indicate that these types of activities should be dealt with under the regime of State responsibility and not within the present topic.

[141] According to Schachter, identification of thresholds defining significant harm could vary from activity to activity and from region to region, depending upon the vulnerability involved as well as the options available in meeting the vital needs of the population. Accordingly, the threshold of significant harm could vary from a country which was highly developed to another country which is desperately seeking development; see O. Schachter, *International Law in Theory and Practice* (Martinus Nijhoff, London, 1991), p. 368. As discussed above, Quentin-Baxter had earlier come to a similar conclusion when he stated that standards of protection should take into account the means at the disposal of the acting State and the standards applied in the affected State and in regional and international practice (section 5 of the schematic outline). He also noted that suggesting a standard was no longer a problem; the real problem was the application of standards by States which were at diverse levels of socio-economic and scientific development. It followed, according to this view, that the due diligence obligation was largely based on the capability of States to prevent the harm. As such, prevention as a principle has been applied differently in different regimes; see P. Sands, *Principles of International Environmental Law: Frameworks, Standards and Implementation* (Manchester University Press, New York, 1994), p. 356. After surveying a number of international instruments, Sands observed that "the identification and evaluation of substances, technology, processes and categories of activities which have or are likely to have significant adverse impact on the environment is, therefore, left to sovereign States. Moreover, the liability for the non-observance of this obligation arises only when the significant harm has resulted and not before."

113. The Special Rapporteur urges the Commission to consider and approve the above conclusions as the issues involved have been thoroughly debated over the past several years. They represent the opinion of a wide majority both in the Commission and in the Sixth Committee. Accordingly, these conclusions offer, in the opinion of the Special Rapporteur, a realistic chance of achieving consensus if not complete agreement.